

No. 806,270.

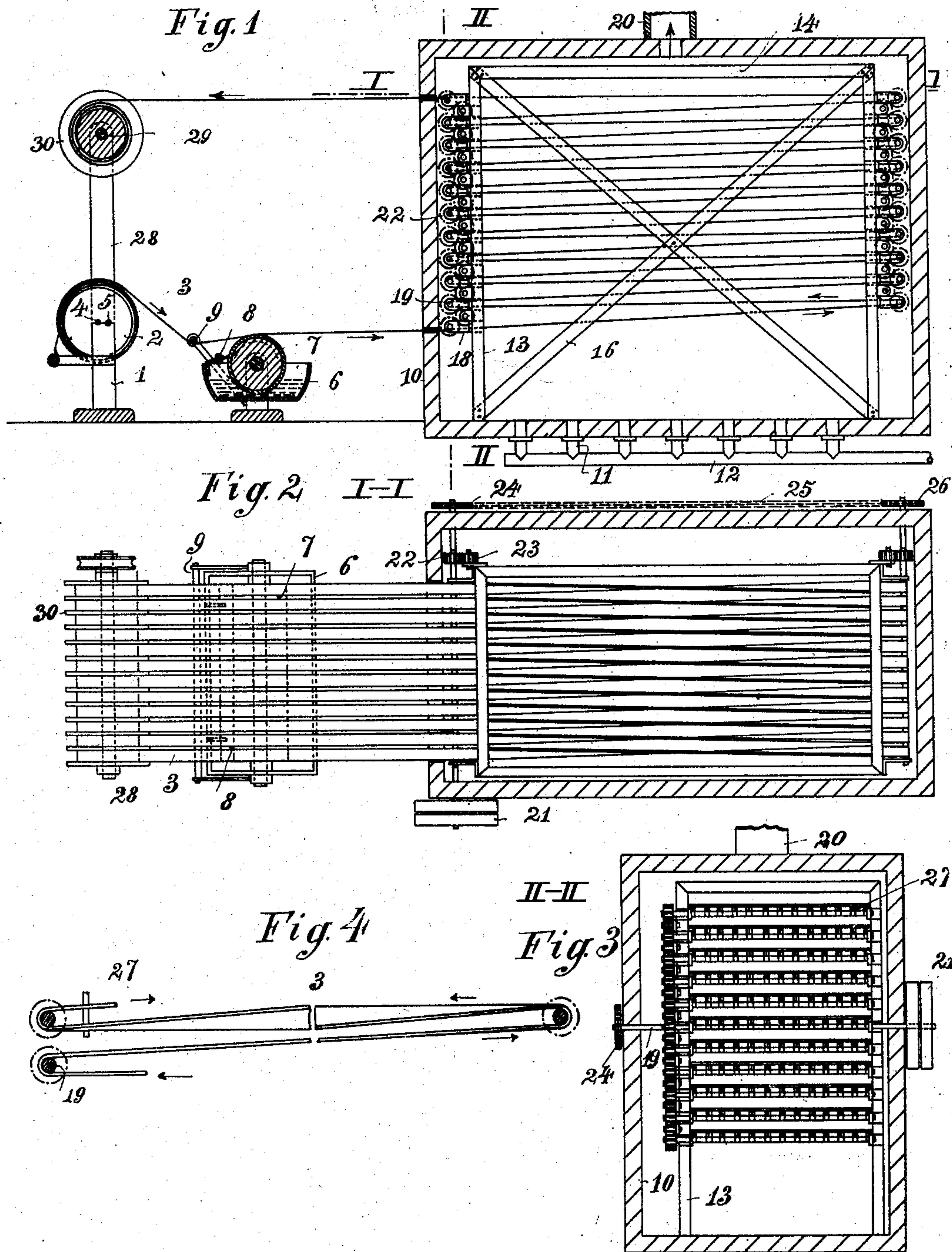
PATENTED DEC. 5, 1905.

A. LÜBBERTSMEIER.

APPARATUS FOR VARNISHING SHEET METAL BANDS.

APPLICATION FILED JAN. 21, 1905.

2 SHEETS—SHEET 1.



Witnesses

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Alfred Boker.

Inventor

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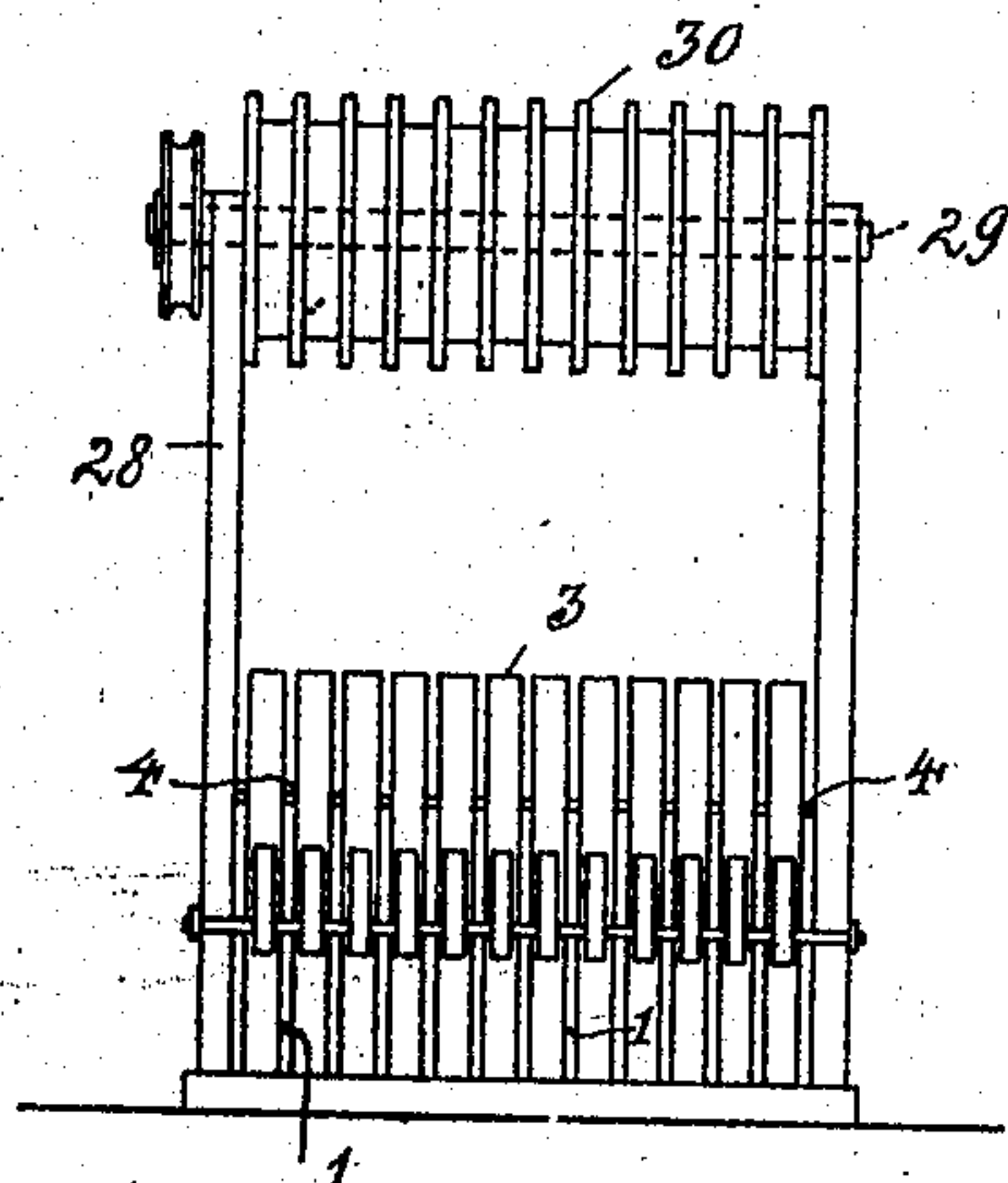


Fig. 5

Fig. 6 III

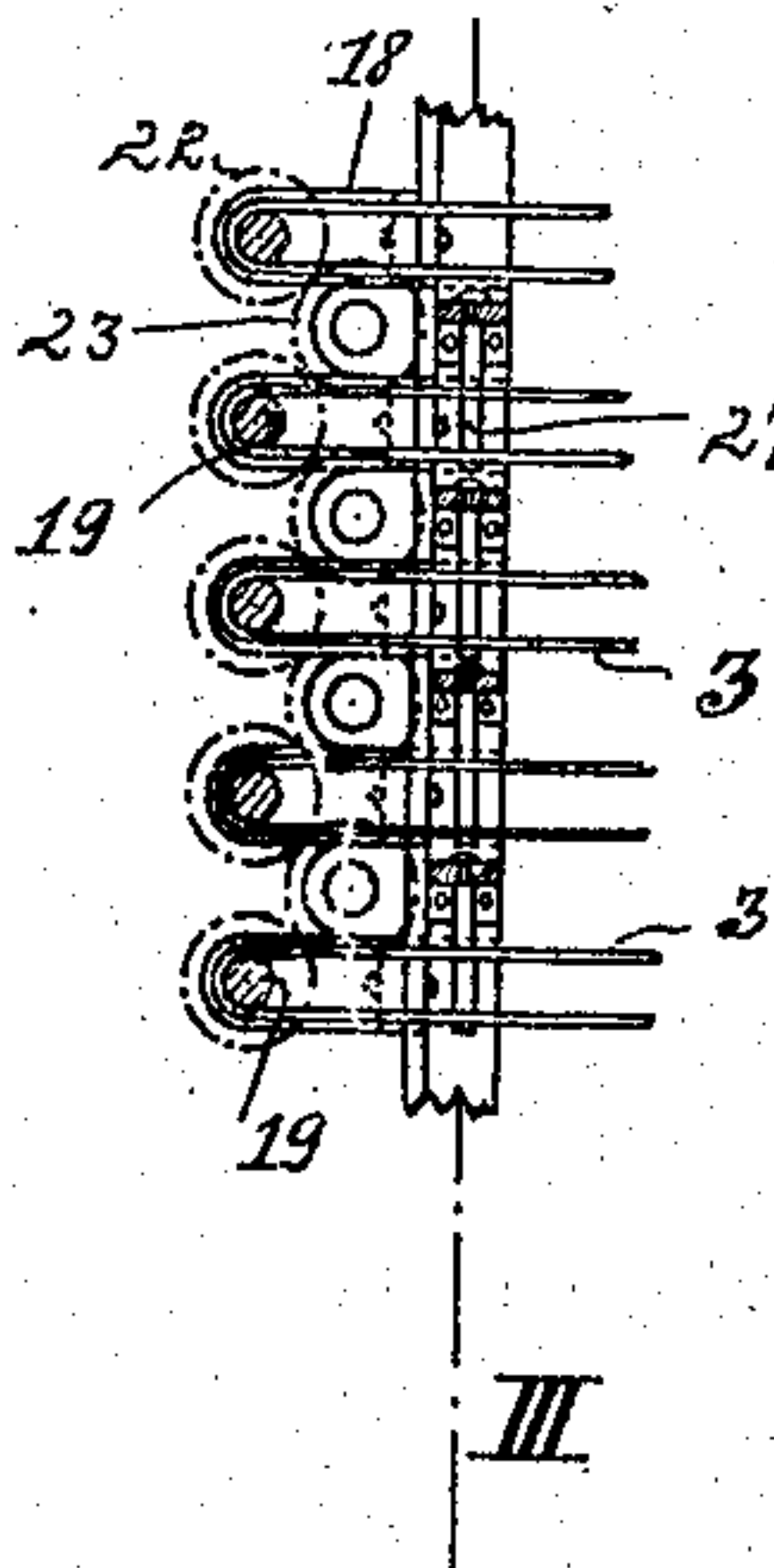
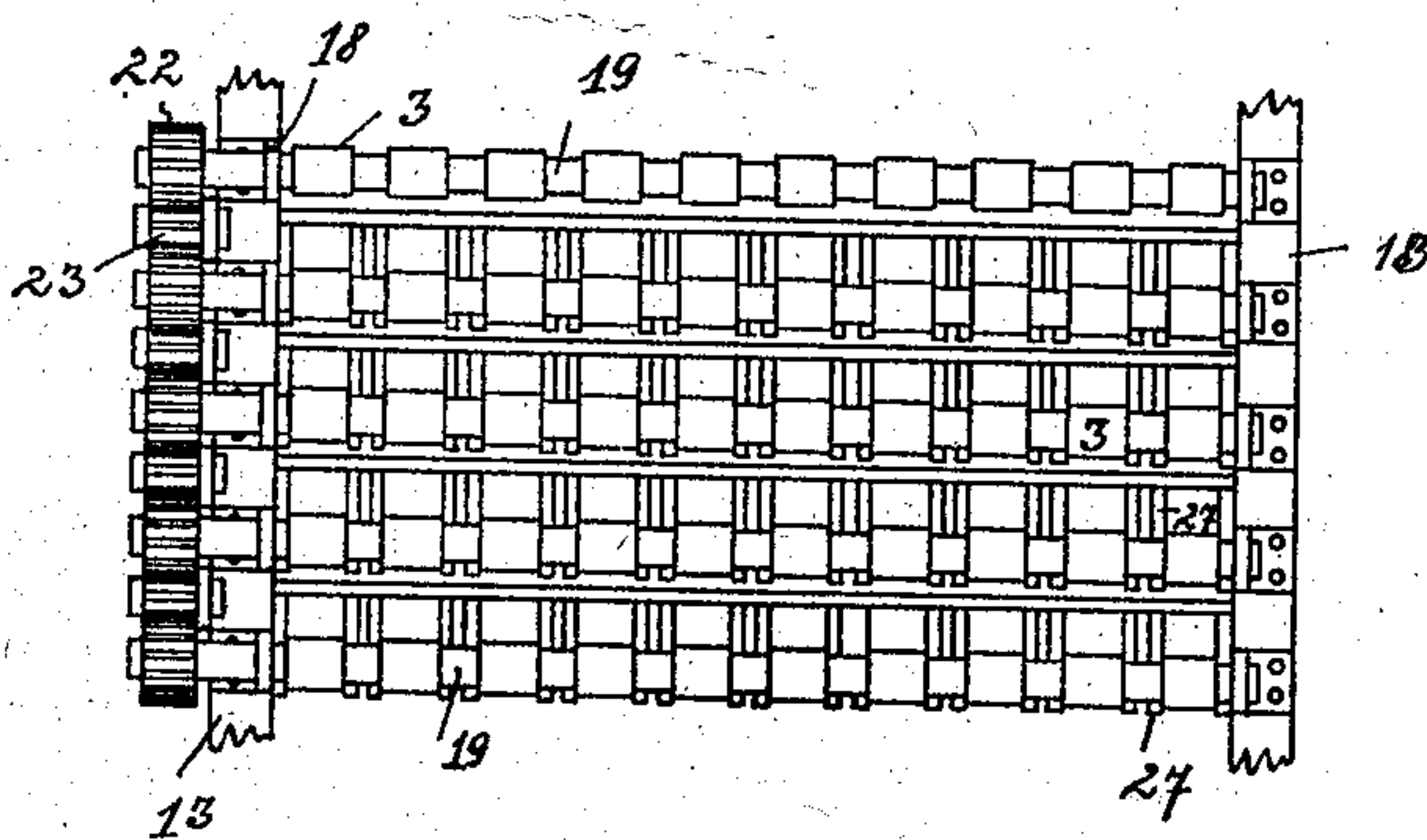


Fig. 7



III-III

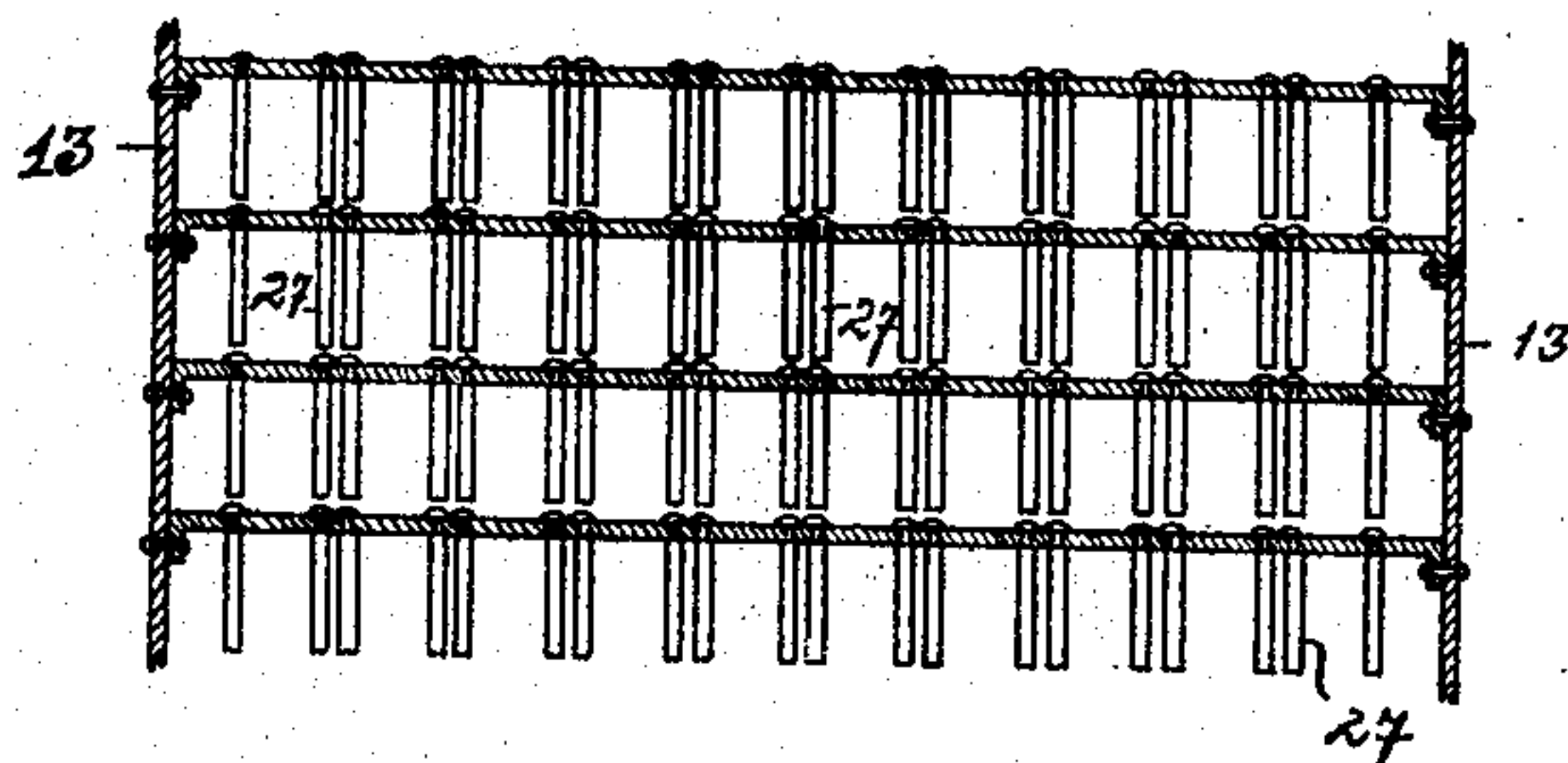


Fig. 8

Witnesses

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UNITED STATES PATENT OFFICE.

ADOLF LÜBBERTSMEIER, OF BARMEN, GERMANY.

APPARATUS FOR VARNISHING SHEET-METAL BANDS.

No. 806,270.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed January 21, 1905. Serial No. 242,181.

To all whom it may concern:

Be it known that I, ADOLF LÜBBERTSMEIER, a subject of the German Emperor, residing at 15 Sandstrasse, in the city of Barmen, Rhenish Prussia, Empire of Germany, have invented a new and useful Improved Apparatus for Varnishing Sheet-Metal Bands, of which the following is a specification.

This invention relates to a machine by which thin sheet-metal bands or strips can be varnished on one side and dried in such a manner that the varnished surface during the whole drying process is not touched or attacked by the guiding means used and that the operation is carried out continuously, the bands being treated in an endless way, so that the oven can be always kept closed.

My invention is more fully described in the following specification and illustrated in the accompanying drawings, of which—

Figure 1 is a side elevation of the complete apparatus. Fig. 2 is a top view; Fig. 3, a side view. Fig. 4 shows the manner of guiding the material to be treated. Fig. 5 is a front view. Fig. 6 is an enlarged view of the guiding-rolls. Fig. 7 is a view at right angles to Fig. 6. Fig. 8 is a vertical section along line III III of Fig. 6.

Like numerals indicate like parts in all the figures.

By 1 is indicated a frame which is arranged to carry a number of rolls 2, on which the material to be treated—i. e., the thin sheet-metal band 3—is wound up. The shafts 4 of these rolls are carried in corresponding recesses 5 of the frame 1, and such recesses are cut two side by side in the frame in order to alternately receive the roller-spindles, and this arrangement is made so as to hold as large a number as possible of rolls in a small space. In front of said frame 1 is located a bath containing the varnish. Said bath consists of a trough 6, in which is journaled a number of rollers 7, one for each band 3. The rollers dip into the varnish and are provided with scrapers 8, for the customary purpose, and a guide-bar 9, by which the band is guided over the surface of the roller, which thus applies varnish to the band. Now the same enters the drying stove or oven 32. This oven may be of any suitable

construction. In my invention I use an oven square-shaped in longitudinal and cross section which is closed on all sides and only provided at its bottom with apertures 10, that are connected by short tubings 11 with a pipe 12, through which hot gases coming from a heat-generator are furnished to the oven at a temperature of about 120° Celsius. The gases may escape by a tube 20. Into said oven is erected a framework consisting of the iron standards 13, which at their top are connected by the angle-irons 14 15 and stiffened by the diagonally-crossing bars 16. To the standards 13 are fixed brackets 18, in which are journaled spindles 19 and one of which carries a pulley 21, that is set in rotation by any motive power. The spindles 19 are fitted with pinions 22, meshing with intermediate pinions 23, so that all spindles on both sides of the standards revolve in the same way. The pulley-spindle carries a sprocket-wheel 24, from which motion is transmitted by a chain 25 to a like wheel 26, seated on one of the spindles 19, and now it will be easily understood that the whole train of spindles on both sides of the standard, located one above another, are revolving the same way. To the standards 13 are fixed, opposite each roller 2, forks 27. From the frame 1 project the arms 28, in which is journaled a shaft 29, carrying the rollers 30. A pulley 31 is arranged to revolve said shaft 29. The bands after they have been provided with varnish enter the oven and are carried on the lowest bars 19 or from the left side standard 13 to the right side, passing on its way the forks 27. Then the band is guided back to the front standard; but on its way it is turned about an angle of ninety degrees, so that when it has passed again the fork 27 it may be laid round the bar 19 with the unvarnished surface, and in this manner the band is carried to and fro above over the bars and turned between each set of them a quarter-revolution, so that the varnished surface is always upward and cannot be damaged. From the uppermost spindles 19 the band is led out of the oven and fixed to its roller or drum 30. Within the oven the bands are perfectly dried, so that they leave the same varnished and dried, as desired. The operation is performed continuously, the

ends of the bands on the drum 2 being connected with those of fresh drums, and therefore the oven may be kept closed.

What I desire to secure by Letters Patent 5 is—

An apparatus for varnishing and drying sheet-metal bands comprising a standard with band-drums, a varnish-bath over which the bands are carried, an oven or stove containing

a frame, said frame having revolving spindles 10 and guide-forks adapted to separate the reversed bands and band-receiving drums outside the oven, as described and for the purpose set forth.

ADOLF LÜBBERTSMEIER.

Witnesses:

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